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10/620,856	07/15/2003	Stefan Dessloch	SVL920020048US1/3793P	9144

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EXAMINER
COLAN, GIOVANNA B

ART UNIT	PAPER NUMBER
2162	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/29/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/620,856	DESSLOCH ET AL.
	Examiner	Art Unit	
	Giovanna Colan	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 December 2006</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-45</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-45</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>09/22/2006, 03/05/2007</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.   This action is issued in response to the Amendment filed on 12/26/2006.

2.   No claims were amended. No claims were canceled. No claims were added.

3.   This action is made Final.

4.   Claims 1 –45 are pending in this application.

5.   Applicant's arguments filed on 12/26/2006 have been fully considered but they

are not persuasive.

Information Disclosure Statement

The information disclosure statement (IDS) was submitted on 09/22/2006, and

03/05/2007. The submission is in compliance with the provisions of 37 CFR 1.97.

Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7.   Claim 1 – 3, 5 – 10, 14 – 17, 19 – 24, 28 – 31, 33 – 38, and 42 are rejected under

35 U.S.C. 102(e) as being anticipated by Witkowski et al. (hereinafter Witkowski) (US

Patent No. 6,775,662 B1).

Regarding Claims 1 and 29, Witkowski discloses an article of manufacture

comprising a computer program carrier readable by a computer and embodying one or

more instructions executable by the computer for providing a structure for representing

a query statement having an atomic query element (Fig. 5, item 521, Col. 11, lines 2 –

5, Witkowski) and a combined query element related by a combined operator (Fig. 5,

item 513, Col. 11, lines 7 – 9, Witkowski), the computer program comprising:

program instructions defining a superclass (Fig. 5, item 511, Witkowski)

representing an operation on a combination of the combined operator, the query

element, and the combined query element (referenced by root node 511, also see - Col

10, lines 33 – 35, Witkowski[1]), the superclass further comprising:

program instructions for defining a first subclass representing the atomic query

element (Fig. 5, item 521, Col. 11, lines 2 – 5, Witkowski);

program instructions for defining a second subclass representing the combined

query element (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski) and including a left

subelement and a right subelement, wherein each of the left (Fig. 5, item 524, Col. 11,

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[1] Wherein "(a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))" (referenced
by root node 511, also see - Col 10, lines 33 – 35, Witkowski) corresponds to the query statement
claimed; wherein the **"AND"** corresponds to the combined operator claimed; wherein **"a>3"** corresponds
to the query element claimed; and wherein **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"** corresponds
to the combined query element claimed.

lines 1 – 5, Witkowski[2]) and right subelements can be any subclass of the superclass

(Fig. 5, item 514, Col. 11, lines 7 – 9, Witkowski[3]);

program instructions for defining a relationship indicator representing a

relationship between the first subclass and the second subclass as defined by the

combined operator (Fig. 5, item 511, AND, Col. 11, lines 7 – 9, Witkowski); and

program instructions for storing the superclass, the first subclass, the second

subclass on a computer-readable medium (Col. 12, lines 32 – 36, Witkowski).

Regarding Claims 2 and 30, Witkowski discloses an article of manufacture,

wherein at least one class of the superclass further comprises zero or more types for

the query element (Col. 10, lines 64 – 66, Witkowski[4]) represented by that class and a

subclass defined for each identified type (Fig. 5, item 513, and 514, Col. 11, lines 1 – 9,

Witkowski[5]).

Regarding Claims 3 and 31, Witkowski discloses an article of manufacture,

wherein at least one subclass further comprises a superclass (Fig. 5, item 513, Col. 11,

lines 7 – 9, Witkowski).

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[2] Wherein **"gc = 1"** corresponds to the left subelement claimed.
[3] Wherein **"gc = 1 AND d>0"** corresponds to the right subelement claimed.
[4] Witkowski discloses a selection procedure to determine if the query contains conjunctive or disjunctive predicates (Fig. 3, Col. 8, lines 11 – 19, Witkowski). Conjunctive or disjunctive predicates/expressions would correspond to the type of query elements.
[5] In Fig. 5, item 513 would correspond to a class of the superclass, and item 514 would correspond to a subclass.

Regarding Claims 5 and 33, Witkowski discloses an article of manufacture,

wherein the superclass represents a value expression (Fig. 5, item 511, Col. 11, lines

11 – 13, Witkowski[6]), the first subclass represents an atomic value expression (Fig. 5,

item 521, Col. 10 and 11, lines 60 – 61 and 2 – 5; respectively, Witkowski) and the

second subclass comprises a combined value expression (Fig. 5, item 513, Col. 11,

lines 7 – 9, Witkowski[7]).

Regarding Claims 6 and 34, Witkowski discloses an article of manufacture,

wherein the superclass represents a search condition (Fig. 5, item 511, Col. 11, lines 11

– 13, Witkowski[8]), the first subclass represents an atomic search condition (Fig. 5, item

521, Col. 10 and 11, lines 60 – 61 and 2 – 5; respectively, Witkowski), and the second

subclass represents a combined search condition (Fig. 5, item 513, Col. 11, lines 7 – 9,

Witkowski[9]).

Regarding Claims 7 and 35, Witkowski discloses an article of manufacture,

wherein the superclass represents a group-by query element (Col. 6, lines 38 – 40,

Witkowski), the first subclass represents a group (Col. 11, lines 16 – 17, Witkowski),

and the second subclass represents a grouping set (Col.11, lines 34 – 37, Witkowski).

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[6] Witkowski discloses root node 511 that references the value expression of : **"where (a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"** (Col 10, lines 33 – 35, Witkowski).
[7] Witkowski (Fig. 5) discloses a parent node (item 513), which corresponds to the second subclass, and nchild nodes (items 524, 514, 515, 525, 526, 527, and 528), which correspond to a combined value expression (Col. 12, lines 21 – 23, **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).
[8] Witkowski discloses root node 511 that references the search condition: **"where (a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"** (Col 10, lines 33 – 35, Witkowski).

Regarding Claims 8 and 36, Witkowski discloses an article of manufacture, wherein the second subclass further comprises a nested query language element (Fig. 5, item 514, 525, and 526, Col. 10, lines 33 – 35, element 514 comprising: **"(gc=0 AND d>0)"** is nested over element 513 comprising: **"(gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).

Regarding Claims 9 and 37, Witkowski discloses an article of manufacture, wherein the second subclass represents an iterative query language element (Col. 11, lines 26 – 27, Witkowski[10]).

Regarding Claims 10 and 38, Witkowski discloses an article of manufacture, further comprising program instructions for receiving a query statement (Fig. 1, item 110, Col. 6, lines 29 – 32, Witkowski) having an atomic query element (Col. 10, line 34, **a>3**, Witkowski) and a combined query element associated by a combined operator (Col. 10, line 34, **gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)**, Witkowski); and program instructions for populating the structure with the received query statement (Fig. 4, items 410, 420, and 430, and 440, Col. 10, lines 57 – 58, Witkowski).

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[9] Witkowski (Fig. 5) discloses a parent node (item 513), which corresponds to the second subclass, and child nodes (items 524, 514, 515, 525, 526, 527, and 528), which correspond to a combined search condition (Col. 12, lines 21 – 23, **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).

[10] Witkowski discloses a method for recursively creating parent nodes (item 513 in Fig. 5 is a parent node and also corresponds to the second subclass in the superclass). This method, utilizing recursion, involves repetition, recurrence, and/or iteration. In addition, Witkowski also discloses a method for processing conjunctions, which would later be used in the predicate query tree of Fig. 5, including an iterative loop (Col. 8, lines 37 – 38).

Regarding Claim 15, Witkowski discloses a method for hierarchically

representing a query statement having an atomic query element (Fig. 5, item 521, Col.

11, lines 2 – 5, Witkowski) and a combined query element related by a combined

operator (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski) comprising the steps of:

defining a superclass representing the query element (Fig. 5, item 511,

Witkowski), representing the query statement and including an operation on a

combination of the combined operator, the query element, and the combined query

element (referenced by root node 511, also see - Col 10, lines 33 – 35, Witkowski[11]);

defining a first subclass of the superclass representing the atomic query element

(Fig. 5, item 521, Col. 11, lines 2 – 5, Witkowski);

defining a second subclass of the superclass representing the combined query

element (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski) and including a left

subelement and a right subelement, wherein each of the left (Fig. 5, item 524, lines 1 –

5, Witkowski[12]) and right subelements comprises any class of the superclass (Fig. 5,

item 514, Col. 11, lines 7 – 9, Witkowski[13]);

indicating a relationship between the first subclass and the second subclass

defined by the combined operator (Fig. 5, item 511, AND, Col. 11, lines 7 – 9,

Witkowski); and

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[11] Wherein "(a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))" (referenced by root node 511, also see - Col 10, lines 33 – 35, Witkowski) corresponds to the query statement claimed; wherein the "AND" corresponds to the combined operator claimed; wherein "a>3" corresponds to the query element claimed; and wherein "gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)" corresponds to the combined query element claimed.

[12] Wherein "gc = 1" corresponds to the left subelement claimed.

storing the superclass, the first subclass, the second subclass on a computer-

readable medium (Col. 12, lines 32 – 36, Witkowski).

Regarding Claim 16, Witkowski discloses a method, further comprising the step

of: for at least one class of the superclass, identifying zero or more types for the query

element (Col. 10, lines 64 – 66, Witkowski[14]) represented by that class and defining a

subclass for each identified type (Fig. 5, item 513, and 514, Col. 11, lines 1 – 9,

Witkowski[15]).

Regarding Claim 17, Witkowski discloses a method, wherein at least one

subclass further comprises a superclass (Fig. 5, item 513, Col. 11, lines 7 – 9,

Witkowski).

Regarding Claim 19, Witkowski discloses a method, wherein the superclass

represents a value expression (Fig. 5, item 511, Col. 11, lines 11 – 13, Witkowski[16]), the

first class represents an atomic value expression (Fig. 5, item 521, Col. 10 and 11, lines

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[13] Wherein **"gc = 1 AND d>0"** corresponds to the right subelement claimed.
[14] Witkowski discloses a selection procedure to determine if the query contains conjunctive or disjunctive predicates (Fig. 3, Col. 8, lines 11 – 19, Witkowski). Conjunctive or disjunctive predicates/expressions would correspond the type of query elements.
[15] In Fig. 5, item 513 would correspond to a class of the superclass, and item 514 would correspond to a subclass.
[16] Witkowski discloses root node 511 that references the value expression of: **"where (a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"** (Col 10, lines 33 – 35, Witkowski).

60 – 61 and 2 – 5; respectively, Witkowski) and the second class comprises a combined

value expression (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski[17]).

Regarding Claim 20, Witkowski discloses a method, wherein the superclass

represents a search condition (Fig. 5, item 511, Col. 11, lines 11 – 13, Witkowski[18]), the

first class represents an atomic search condition (Fig. 5, item 521, Col. 10 and 11, lines

60 – 61 and 2 – 5; respectively, Witkowski), and the second class represents a

combined search condition (Fig. 5, item 513, Col. 11, lines 7 – 9, Witkowski[19]).

Regarding Claim 21, Witkowski discloses a method, wherein the superclass

represents a group-by query element (Col. 6, lines 38 – 40, Witkowski), the first class

represents a group (Col. 11, lines 16 – 17, Witkowski), and the second class represents

a grouping set (Col.11, lines 34 – 37, Witkowski).

Regarding Claim 22, Witkowski discloses a method, wherein the second class

further comprises a nested query language element (Fig. 5, item 514, 525, and 526,

Col. 10, lines 33 – 35, element 514 comprising: **"(gc=0 AND d>0)"** is nested over

element 513 comprising: **"(gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).

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[17] Witkowski (Fig. 5) discloses a parent node (item 513), which corresponds to the second subclass, and nchild nodes (items 524, 514, 515, 525, 526, 527, and 528), which correspond to a combined value expression (Col. 12, lines 21 – 23, **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).
[18] Witkowski discloses root node 511 that references the search condition: **"where (a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"** (Col 10, lines 33 – 35, Witkowski).
[19] Witkowski (Fig. 5) discloses a parent node (item 513), which corresponds to the second subclass, and child nodes (items 524, 514, 515, 525, 526, 527, and 528), which correspond to a combined search condition (Col. 12, lines 21 – 23, **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"**, Witkowski).

Regarding Claim 23, Witkowski discloses a method, wherein the second class represents an iterative query language element (Col. 11, lines 26 – 27, Witkowski[20]).

Regarding Claim 24, Witkowski discloses a method, further comprising the steps of:

receiving a query statement (Fig. 1, item 110, Col. 6, lines 29 – 32, Witkowski) having an atomic query element (Col. 10, line 34, **a>3**, Witkowski) and a combined query element associated by a combined operator (Col. 10, line 34, **gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)**, Witkowski); and

populating the structure with the received query statement (Fig. 4, items 410, 420, and 430, and 440, Col. 10, lines 57 – 58, Witkowski).

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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[20] Witkowski discloses a method for recursively creating parent nodes (item 513 in Fig. 5 is a parent node and also corresponds to the second subclass in the superclass). This method, utilizing recursion, involves repetition, recurrence, and or iteration. In addition, Witkowski also discloses a method for processing conjunctions, which would later be used in the predicate query tree of Fig. 5, including an iterative loop (Col. 8, lines 37 – 38).

9.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

10.   Claims 4, 11 – 13, 18, 25 – 27, 32, and 39 – 41 are rejected under 35

U.S.C. 103(a) as being unpatentable over Witkowski et al. (hereinafter Witkowski) (US

Patent No. 6,775,662 B1) in view of Li et al. (hereinafter Li)(US Patent No. 5,428,737).

Regarding Claim 4, 18, and 32, Witkowski discloses all the limitations as

disclosed above including an article of manufacture, wherein a superclass represents a

table reference (Col. 11, lines 38 – 46, Witkowski) and a first subclass represents an

unjoined expression (Fig. 5, item 521, Col. 10 and 11, lines 60 – 62 and 2 – 4;

respectively, Witkowski) and a second subclass represents a joined query expression

(Fig. 5, item 513, Col. 10, lines 34 – 35, joined by operator "OR", Witkowski). However,

Witkowski is silent with respect to subclasses that represent tables (Claim 4, 18, and

32). On the other hand, Li discloses a system and method including subclasses (Col. 6,

lines 1 – 15, Li), and query statements that represent tables (Fig. 3, Col. 5, lines 41 –

46, Li). It would have been obvious to one of ordinary skills in the art at the time the

invention was made to incorporate the teachings of Li, regarding queries, and

subclasses that represent tables, to the system and method of Witkowski. Skilled

artisan would have been motivated to do so, in order to provide a better and more

organized view of the records and columns containing the data.

11.   Regarding Claims 11 – 12, 25 – 26, and 39 - 40, Witkowski teaches all the

limitations as disclosed above including an interface (Fig. 6, item 618, Col. 13, lines 64

– 67, Witkowski). However, Witkowski is silent with respect to a user - interface (Claim

11, 25, and 39) or an application interface (Claim 12, 26, and 40). On the other hand, Li

discloses a method and system including receiving a query statement from a user-

interface (Col. 4 and 5, lines 33 – 42 and 20 – 25, Li) and application interface (Col. 4

and 5, lines 33 – 42 and 20 – 25, Li). It would have been obvious to one of ordinary skill

in the art at the time the invention was made to incorporate the teachings of Li, including

the user and application interface, to the system and method of Witkowski. Skilled

artisan would have been motivated to do so, in order to allow users to input query

statements, and to provide a more organized, reliable, and robust system for managing

query statements.

12.   Regarding Claim 13, 27, and 41, Witkowski discloses all the limitations as

disclosed above including query elements of a class or subclass instance of at least one

populated model (Fig. 5, Witkowski), and mean for building a query statement from query elements using the relationships defined by the hierarchical class structure of the model (Col. 12, lines 8 – 9, Witkowski). However, Witkowski is silent with respect to means responsive to selection and for retrieving query elements. On the other hand, Li discloses a system and method for converting queries including responsive means to selection, and for retrieving only query elements populating the selected class or subclass instance (Fig. 2 and 8, items 12 and 8, Col. 17, lines 52 – 60, Li). It would have been obvious to one of ordinary skills in the art at the time the invention was made to apply the teachings of Li, with respect to means responsive to selection and retrieving selections. Skilled artisan would have been motivated to do so, to provide an accessible system for users who want to select and work with specific database structures.

13.   Claims 14, 28, and 42 – 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Witkowski et al. (hereinafter Witkowski) (US Patent No. 6,775,662 B1) in view of Carter et al. (Carter hereinafter) (US Patent No. 6,826,557 B1, filed: June 22, 2001).

Regarding Claims 14 and 42, Witkowski discloses an article of manufacture, further comprising:

program instructions for identifying a first query element type (Fig. 5, item 515, AND, Witkowski[21]).

Witkowski also discloses a query language and different syntaxes (Fig. 5, item 515, AND, Witkowski [22]). However, Witkowski is silent with respect to query language dialect. On the other hand, Carter discloses query language dialects including a first query element type for a first query language dialect and a second query element type for at least a second query language dialect (Col. 4 and 6, lines 20 – 24 and 12 – 23; respectively; "... Where one department may use "Last Name", another may use "SurName". Both usages are correct, however, to provide consistency the database administrator can design the base schema to have a single definition for "Last Name/"Sur Name" and perhaps make it LN48..." , Carter). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Carter's teachings to the system Witkowski. Skilled artisan would have been motivated to do so, as suggested by Carter (Col. 4, lines 12 – 25, Carter), to provide the ability of accessing and receiving data from a variety of sources. In addition, both of the references (Witkowski and Carter) teach features that are directed to analogous art and they are directed to the same field of endeavor, such as, databases management systems, and SQL queries. This close relation between both of the references highly suggests an expectation of success.

The combination of Witkowski in view of Carter further discloses:

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[21] The type AND would correspond to conjunction (conjunctive). Witkowski also discloses an identification of types procedure (selection process see Fig. 3, Col. 8, lines 11 – 19, Witkowski).
[22] The syntax of the query expression: " c=0 AND d<0 ".

program instructions for identifying at least a second query element type for at

least a second query language dialect (Fig. 5, item 514, AND, Witkowski[23]; and Col. 4,

lines 20 – 24, Carter), the second element type being functionally equivalent to the first

query element type (Fig. 5, items 514 and 515, Col. 11, lines 7 – 9, Witkowski[24]; and

Col. 4 and 6, lines 20 – 24 and 12 – 23; respectively; "... Where one department may

use "Last Name", another may use "SurName". Both usages are correct, however, to

provide consistency the database administrator can design the base schema to have a

single definition for "Last Name/"Sur Name" and perhaps make it LN48..." , Carter); and

program instructions for creating a generic subclass representative of both the

identified first and at least second element type (Fig. 5, item 513, Witkowski[25]; and Col.

6, lines 12 – 23; "... another may use "SurName". Both usages are correct, however, to

provide consistency the database administrator can design the base schema to have a

single definition for "Last Name/"Sur Name" and perhaps make it LN48..." , Carter).

Regarding Claim 28, the combination of Witkowski in view of Carter discloses a

method, further comprising the steps of:

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[23] The type AND would correspond to conjunction (conjunctive). Witkowski also discloses an identification of types procedure (selection process see Fig. 3, Col. 8, lines 11 – 19, Witkowski). In addition, the syntax of the query expression is: " gc=0 AND d>0 ".
[24] Items 514 and 515 (Fig. 5) are functionally equivalent because both of them are conjunctive operators (AND), forming conjunctive expressions, and both of them represent parent nodes.
[25] Item 513 (Fig. 5) would correspond to the generic subclass that represents items 514 and 515 elements.

i) identifying a first query element type for a first query language dialect (Fig. 5,

item 515, AND, Witkowski[26]; and Col. 4, lines 20 – 24, Carter);

ii) identifying at least a second query element type for at least a second query

language dialect (Fig. 5, item 514, AND, Witkowski[27]; and Col. 4, lines 20 – 24, Carter),

the second element type being functionally equivalent to the first element type (Fig. 5,

items 514 and 515, Col. 11, lines 7 – 9, Witkowski[28]); and

iii) creating a subclass representative of both the identified first and at least

second element types (Fig. 5, item 513, Witkowski[29]).

Regarding Claims 43, 44, and 45, the combination of Witkowski in view of Carter

discloses an article of manufacture, wherein at least one of the first subclass and the

second subclass generically represent at least one query element in a plurality of query

language dialects (Fig. 5, items 514 and 515, Col. 11, lines 7 – 9, Witkowski[30]; and Col.

4, lines 20 – 24, Carter).

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[26] The type AND would correspond to conjunction (conjunctive). Witkowski also discloses an identification
of types procedure (selection process see Fig. 3, Col. 8, lines 11 – 19, Witkowski). The syntax of the
query expression is: " c=0 AND d<0 ".
[27] The type AND would correspond to conjunction (conjunctive). Witkowski also discloses an identification
of types procedure (selection process see Fig. 3, Col. 8, lines 11 – 19, Witkowski). The syntax of the
query expression is: " gc=0 AND d>0 ".
[28] Items 514 and 515 (Fig. 5) are functionally equivalent because both of them are conjunctive operators
(AND), forming conjunctive expressions, and both of them represent parent nodes.
[29] Item 513 (Fig. 5) would correspond to the generic subclass that represents items 514 and 515
elements.

Response to Arguments

1.   Applicant argues that the prior art fails to disclose; "superclass and subclasses connected by a relationship indicator".

Examiner respectfully disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "combination of the superclass", and "connected by") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

As stated in the Office Action dated 08/15/2006, the applied art Witkowski does disclose the claimed limitation including: the superclass, subclasses, and relationship indicator (Fig. 5, item 511, AND, Col. 11, lines 7 – 9, Witkowski). Wherein **the predicate "(a>3 AND (b<1 OR b=0) AND (gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0))"** (referenced, emphasis added, by root node 511; also see - Col 10, lines 33 – 35, Witkowski) corresponds to the superclass claimed; wherein **"a>3"**, and **"gc=1 OR (gc=0 AND d>0) OR (c=0 and d<0)"** (referenced by root node 521 and 513; respectively; also see - Col 10, lines 33 – 35, Witkowski) correspond to the subclasses claimed; and wherein **"AND"** corresponds to the relationship indicator claimed.

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[30] Items 514 and 515 (Fig. 5) are functionally equivalent because both of them are conjunctive operators (AND), forming conjunctive expressions, and both of them represent parent nodes.

2.   In response to applicant's argument that the references fail to show certain

features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., "… superclass can or should be provided as a root node of the tree …") are not

recited in the rejected claim(s). Although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re*

Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

3.   Applicant argues that; "Witkowski does not teach or suggest identifying

functionally equivalent query elements in at least two different dialects and representing

they both using a generic subclass".

        Examiner respectfully disagrees. First, applicant cannot show non-obviousness

by attacking references individually where, as here, the rejections are based on a

combination of references.

In re Keller, 208 USPQ 871 (CCPA 1981).

Second, the combination of Witkowski in view of Carter does disclose: identifying

functionally equivalent query elements in at least two different dialects and representing

they both using a generic subclass (Fig. 5, items 513, 514, and 515, Col. 11, lines 7 – 9,

Witkowski; and Col. 4 and 6, lines 20 – 24 and 12 – 23; respectively; "… Where one

department may use "Last Name", another may use "SurName". Both usages are

correct, however, to provide consistency the database administrator can design the

base schema to have a single definition for "Last Name"/"Sur Name" and perhaps make

it LN48 …", Carter). Wherein Items 514 and 515 (Fig. 5) in Witkowski are functionally

equivalent because both of them are conjunctive operators (AND), forming conjunctive

expressions; additionally, both of them represent parent nodes. Wherein "**gc=1 OR**

gc=0 AND d>0 OR c=0 and d<0" (Fig. 5) corresponds to the generic subclass (See

also 103 rejection of claims 14, 28, and 43 – 45 in this Office Action above).

4.   Applicant argues that; "Li does not describe a superclass, subclasses related to

the superclass, or the recited relationship operator", and further that; "Applicant has

found no mention in Carter of the recited superclass, subclass, and relationship

identifier. Consequently, any combination of Witkowski and Carter would also fail to

teach or suggest this feature. Witkowski in view of Carter, therefore, would fail to teach

or suggest the structure, method, and article of manufacture recited in 14, 28, 42,

respectively".

Examiner respectfully disagrees. As previously discussed, the applied art,

specifically the Witkowski reference, does disclose such argued limitation (See -

response to argument 1 in this Office Action above).

With respect to applicant's argument regarding the suggestion for combination of

dependent claims 14, 28, and 42, the examiner recognizes that obviousness can only

be established by combining or modifying the teachings of the prior art to produce the

claimed invention where there is some teaching, suggestion, or motivation to do so

found either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.

1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case,

the Carter reference suggests such combination (Col. 4, lines 12 – 25, Carter), to

provide the ability of accessing and receiving data from a variety of sources.

5.   In response to applicant's argument that; "If Carter were added to the teachings

of Witkowski, the combination might use the dictionary of Carter in order to account for

differences in dialects, particularly for normalizing the labels of data items. However,

there is no indication in either Carter or Witkowski that the dictionary can or should be

used in forming the predicate tree... Consequently, Witkowski in view of Carter fail to

teach or suggest the use of subclass representative of equivalent query types form

different dialects ...", the test for obviousness is not whether the features of a secondary

reference may be bodily incorporated into the structure of the primary reference; nor is it

that the claimed invention must be expressly suggested in any one or all of the

references. Rather, the test is what the combined teachings of the references would

have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 208

USPQ 871 (CCPA 1981).

Conclusion

1.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

2.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Prior Art Made of Record

1.   Witkowski et al. (US Patent No. 6,775,662 B1) discloses group pruning from cube, rollup, and grouping sets.

2.   Li et al. (US Patent No. 5,428,737) discloses a comprehensive bilateral translation between sql and graphically depicted queries.

3.   Banning et al. (US Patent No. 5,421,008) discloses a system for interactive graphical construction of a data base query and storing of the query object links as an object.

4.   Carter et al. (US Patent No. 6,826,557 B1) discloses a method and apparatus for characterizing and retrieving query results.

Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna Colan whose telephone number is (571) 272-2752. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Giovanna Colan
Examiner
Art Unit 2162
March 21, 2007